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it were bound up : for if they were separated from one another, then would the groffer parts of the Excrements get among them, as often as the Bowels are extended. Now the threds not being crowded so much when the guts are stretched, the Chyle enters more easily into the vessels lying among them, and afterwards upon every Contraction of the guts (because then the threds are squeezed together) is conveyed into the body.

I said before that the threds which make the innermost Muscle of the Bowels, lye with their one end in the hollow of the Bowels, which end is for the most part covered with blood-vessels and other vessels. Their other end is fastened to a Skin or Membrane which probably is taken by Anatomists for the Innermost Coat of the Bowels, as in the line *D. E. Fig. 7.* may be seen. In this Membrane I discovered many Globules of fat, which in some places lay close and crowded together, and therefore appeared in different shapes. In other places lay some fat Particles, at a distance from the rest, these all inclined to an oval shape as *Fig. 9.* In another place a little distant lay ovalish Particles in a right line, as *Fig. 10.* In another place the Particles lay so thick together, that they crowded one another, and appeared as in *Fig. 11.*

A Letter formerly written to Mr. H. O. containing the Projection of the Threds of Spiders, and Bees breeding in cases made of Leaves, as also, a Viviparous Fly, &c. by Dr. M. Lister.

I am glad to understand my Letter came safe to your Hands. Give me leave to entertain you now about the Subject of *Insects*, which I see by your last *Phil. transf. Num. 65.* many persons are now curious in.
And

And not to go out of that Tract, I take the forking of some *Threds* (for the Doctor excepts the most) to be merely accidental, even as it is to our *Hair*, neither do I think that any such thing is designedly done by the *Animal*: and, for as much as I have observed, *Spiders threds* of themselves are exceeding slick and smooth, and this was not unobserved by the Antients: *Pliny* in the praise of Italian *Linnen* says, *Rectovinis summa tenuitas, nulla lanugo, nervositas filo æqualior pene quam Araneis*. There is, indeed, a dividing in the projection of the *Threds* of many sorts of *Spiders*, and especially among those which we distinguish by the name of *Lupi*, which tribe is most frequent and particularly delighted in sailing, yet this dividing is much of another nature than Forking. These *Lupi* will dart a whole *Stamen* or sheaf at once, consisting of many *Filaments* yet all of one length, all divided each from the other, and distinct, until some chance either snap them off, or entangle them; but for the most part, you may observe, that the longer they grow, the more they spread and appear to a diligent observer like the numerous Rays in the tail of a blazing Star. As for that which carries them away in the *Air* so swift off hand, it is, as I formerly hinted, partly their sudden leap, and partly the length and number of the *Threds* projected, the stream of the *Air* and *Wind* beating more forceably upon them, and thus we see a Rope that unexpectedly slips, comes home with a seeming violence, and partly (and that much too) the posture and management of their *Feet*, which, at least by some sorts of them, I have observed to have been used very like *Wings* or Oars, the several legs (like our fingers) being sometimes close joyned and other times opened, again bent or extended, &c. according to the several necessities and will of the sailer. To fly they cannot strictly be said, they being carried into the *Air* by external force; but they can, in case the wind suffer them, steer their Course, and perhaps mount and

descend at pleasure : and to the purpose of *rowing* themselves along the Air, 'tis observeable, that they ever take their *flight backwards*, that is, their head looking a contrary way, like a Sculler upon the Thames. It is scarce credible to what height they will *mount*, which yet is precisely true, and a thing easily to be observed by one that shall fix his Eye some time on any part of the Heavens, the white *Webbs* at a vast distance very distinctly appearing from the Azure Sky : but this is in *Autumn* only; and that in very fair and calm weather, for in wind they delight as little (if possible) for them to mount, as for the *Indians* in *Pliny* to fight a battle with their Reed Arrows. Divers sorts have divers ways and particularities in performing this surprizing *Phænomenon*. I am not willing to hasten a History which further leisure may improve, yet partly to excite the curious, and partly to satisfy the promise I made in my former printed *Letter*, you may command from me, when you please, a set of general *Enquiries* on this subject of *Spiders*, most of them already answered by me, &c. founded upon new discoveries.

The Account given of the *Bees* breeding in *Cases* made of *Leaves*, *Phil Transf. Numb. 65.* exactly agrees with what I have observed. I add, that they are not very scrupulous in the choice of those *Leaves*, but will make use even of exotick Plants, such as the *blew Pipe* or *Syringe Tree*. There is a very strange *Oeconomy* of nature yet unsolved : The furthestmost *Bee*, says *Mr. Willughby*, makes her way out along the *Channel* through all the intermediate Cartrages : and according as these Channels run upwards or downwards in the body of the Tree, the *Maggot Bee* at the far or upper end of each *Channel* is first laid, and it should seem both *hatched* and perfected first, and must either wait until the rest be so too, or of necessity by working through their *Cases* destroy them. If it be so, it is very strange. But I take it otherwise, and perhaps it will be found by diligent observers hereafter, that

that that *Bee* which is nearest day, although it be last laid, is yet the first *hatched*; and I ground my Conjecture upon this, that 'tis probable, that the *Eggs* in the Mother are all fit for laying, or equally ripe and forward (as we say) at the time that the first of them was laid, but are not therefore all laid by the *Dam*, until she has provided them of *Meat* and a *House*, each *separately*, as is the nature of *Bees*: and ye in recompense, the warmth of her body, or rather the daily encreasing *Heat* of the Summer-season, to which the Mother *Bee* is continually exposed, whilst the first laid *Eggs* are sheltered in their deep *Channels*; hastens their Vitality so much, that they are *hatched Worms*, and begin to feed before the first laid, and consequently are first perfected into *Bees*. But this is conjecture only, and not observation, and to this purpose, let me observe to you, that we are not always without our *Viviporous Flies*, although in a much colder Region than *Italy*; The first time I took notice of them, was the 2^d. year of the Sickness raging in *Cambridge* 1666. I have of this sort some by me at present, which you may command, for I do not find them cut or described either in *Aldrovandus* or *Mouffet*, though this sort of *Fly* be very frequent with us. And this was not the only strange *Phenomenon*, that I observed among *Insects*, besides other things of nature, particularly that year: for being in Harvest-time at *Bessenburn in Cambridge-shire*, at the House of Mr. *W. A.* he invited me along with him into the Fields, where, *Cozen*, says he, I will shew you a wonder, which, indeed, was so to me, for lifting up the *Barly-Cocks* with his Cane, there appeared millions of *Maggots* on the Corn Lands, and in their *Barns* too, the *Floor* would be covered with them that fell from the Carts. The *Maggots* were about half an Inch long, no thicker than a Pigeon's feather, of a white colour

colour, somewhat shaded with an *Isabella* or faint yellowish stripes the length of the *Worm*; they had 14 feet, after the manner of many *Caterpillars*, and I was almost confident would have produced some sort of *Moath*. I took up about a score of them, and put them into a Box, but they immediately offended me with an ungrateful and strong stink, which yet is not usual to the *Caterpillar* kind. However I kept them 2 days, but by reason of some Apprehensions and fear the Ladies had of them, where I sojourned, and upon their intreaties I rid my self of them; I only observed, that the *Excrements* which they voyded, were little hard Pellets of pure white flower, like that of Barly. These and other things might be Arguments of the power hot weather hath in the hasty quickning the Births of *Insects*, as well as producing them; but I conceive it less useful to Philosophy to dispute, then to deliver faithfully matters of Fact.

December 23, 1970.

*A Letter written to Mr. H. O. concerning some
very aged Persons in the North of England, by
Dr. M. L.*

Since my last to you I have been in *Craven*, where I was not unmindful of your Commands; but, indeed, I find it a very hard, and troublesome business to verify precisely the *Ages* of such Persons, as either affirm themselves, or are believed very *Old*: the best Informations and Reports I could get I send you.

Robert Montgomery now being living in *Skipton*, but born in *Scotland*, tells me that he is 126 years of Age; the oldest persons in *Skipton* say, that they never knew him other than an old Man; he is exceedingly decayed of late, but yet goes about a begging; to which his debauchery (as is said) has brought him.

Mary Allison of *Thorlby* in the parish of *Skipton* dyed 1668, aged about 108. she spun a Web of linnen Cloath a year or two before she dyed, which as they say, the *Countess* of *Pembroke* keeps by her as a Rarity.

I. Sagar of *Burnley* in *Lancashire* about 10 miles off *Skipton*, dyed about the year 1668, and was of the Age (as is reported) of 112.

Tho. Wiggan of *Carlton* in *Craven* dyed 1670, at the Age of 108 and odd months: he went about till within few weeks of his last, and was a very fair *Corps*. The Register of *Maladale* was looked over upon wagers, and this account (as is said) found true.

Frances Woodworth of *Carlton*, dyed 1662, of the Age of 102 and some odd months: the Mother of 7 Children, always a very lean woman, yet to her very last went about as straight and upright as a young Girl, and of perfect memory: her sight and hearing decayed, though not wholly deprived of either. This by Information

formation from her Son *Robert Woodworth* now living in *Carlton*, of the Age of 69, as able a man to ditch and plough as any in the Town.

William Garthrop and William Baxter of Carlton inform me, that they two being upon the Jury at *York* 1664. they saw and spake with in the Assize-Hall, two Men, Father and Son, summoned as Witnesses in some Cause or other out of *Dent*, a small Valley in *Craven* 8 miles beyond *Settle*, the Father told them, that he and his Son made twelvescore between them, that his Son was above 100 and that he wanted not half a year of 140. he told them further that he could and did make Fish-hooks as small as would take a Trout with a single hair. They observed that the Son looked much the older, and had the whiter hair, this Son he had by a second Wife: They could not remember the names of these Persons.

I add, that it is to be observed, that the Food of all this mountainous Country is exceeding coarse, as salted and dried Beet, and slower-leavened Oat bread.

I am confident many scores of persons might be found of the age of 100 years among these Northern Mountains, but 'tis troublesome to verifie, and you must not take these Reports as Authentick and exact; but yet credible enough, to make the matter worth the Examination.

March 17 1660.